

As a result of this method, the resin has a terminal showing activity even without a crosslinking agent. A known chemical reaction such as oxidation or epoxidation, or the addition of a crosslinking agent to form a crosslinked structure, results in the functioning of the resin. - -


See Appendix 1 for the changes to the specification. The terms bracketed were canceled from the specification.

In the Claims

Please cancel claims 16 - 34.


Please add the following new claims 35 - 53:


- 35. A toner for developing an electrostatically charged image, the toner comprising
- (a) a binder resin comprised of at least one polyolefin resin having a cyclic structure, wherein the polyolefin resin having a cyclic structure comprises:
 - (i) a first resin or a first resin fraction with a number average molecular weight (M_n), as measured by GPC, of less than 7,500, and a glass transition temperature T_g of lower than 70°C and
 - (ii) a second resin or a second resin fraction with a number average molecular weight (M_n) of 7,500 or more and a glass transition temperature T_g of lower than 70°C;
 - (b) a colorant;
 - (c) a function imparting agent; and
 - (d) a charge control agent and
- wherein said first resin or said first resin fraction and said second resin or said second resin fraction must be present and said second resin or second resin

 fraction is contained in a proportion of less than 50% by weight based on the entire binder resin.

36. The toner for developing an electrostatically charged image as claimed in claim 35, wherein the binder resin consists of 1 to 100 parts by weight of the polyolefin resin having a cyclic structure, and 99 to 0 parts by weight of a resin selected from the group consisting of

- (a) a polyester resin,
- (b) an epoxy resin,
- (c) a polyolefin resin,
- (d) a vinyl acetate resin,
- (e) a vinyl acetate copolymer resin,
- (f) an acrylate resin,
- (g) a styrene-acrylate resin
- (h) mixtures of (a) –(g) and
- (i) hybrid polymers.

 36. The toner for developing an electrostatically charged image as claimed in claim 35, wherein the polyolefin resin having a cyclic structure has at least one polar functional group.

 38. The toner for developing an electrostatically charged image as claimed in claim 37, wherein the polyolefin resin having a cyclic structure has at least one polar functional group selected from the group consisting of a carboxyl group, a hydroxyl group and an amino group.

39. The toner for developing an electrostatically charged image as claimed in claim 35, wherein the polyolefin resin having a cyclic structure is an ionomer.

40. The toner for developing an electrostatically charged image as claimed in claim 38, wherein the polyolefin resin having a cyclic structure is an ionomer.
41. The toner for developing an electrostatically charged image as claimed in claim 35, wherein the polyolefin resin having a cyclic structure has a crosslinked structure.
42. The toner for developing an electrostatically charged image as claimed in claim 41, wherein the polyolefin resin having a cyclic structure has a structure crosslinked by a diene monomer together with ester, amide, sulfide or ether, is reacted with an acyclic olefin and a cycloolefin to obtain a terpolymeric polyolefin having a cyclic structure.
43. The toner for developing an electrostatically charged image as claimed in claim 42, wherein the diene monomer is selected from the group consisting of norbornadiene and cyclohexadiene.
44. The toner for developing an electrostatically charged image as claimed in claim 35, further comprising at least one polar wax.
45. The toner for developing an electrostatically charged image as claimed in claim 44, wherein said at least one polar wax is selected from the group consisting of amide wax, carnauba wax, higher fatty acids and esters thereof, higher fatty acid metallic soaps, partially saponified higher fatty acid esters and higher aliphatic alcohols.
46. The toner for developing an electrostatically charged image as claimed in claim 35, wherein at least one nonpolar wax is used as the function imparting agent.

47. The toner for developing an electrostatically charged image as claimed in claim 46, wherein said at least one nonpolar wax is selected from the group consisting of polyolefin wax and paraffin wax.
48. A toner for developing an electrostatically charged image, the toner comprising
- (a) a binder resin comprised of at least one polyolefin resin having a cyclic structure comprising at least three different resins or resin fractions having molecular weight ranges expressed by number average molecular weight (Mn), as measured by GPC,
 - (i) of less than 7500,
 - (ii) 7500 or more but less than 25,000, and
 - (iii) 25,000 or more
 - (b) a colorant;
 - (c) a function imparting agent; and
 - (d) a charge control agent.
49. A toner for developing an electrostatically charged image, the toner comprising:
- (a) a binder resin comprised of at least one polyolefin resin having a cyclic structure, wherein the polyolefin resin having a cyclic structure comprises:
 - (i) a first resin or a first resin fraction with a number average molecular weight (Mn), as measured by GPC, of less than 7,500, and a glass transition temperature Tg of lower than 70°C; and
 - (ii) a second resin or a second resin fraction with a number average molecular weight (Mn) of 7,500 or more;
 - (b) a colorant;

(c) a function imparting agent; and

(d) a charge control agent,

wherein said second resin or said second resin fraction is contained in a proportion of less than 50% by weight based on the entire binder resin.

50. The toner for developing an electrostatically charged image as claimed in claim 49, wherein said second resin or said second resin fraction is present and said polyolefin resin having a cyclic structure is a copolymer of an acyclic olefin and a cyclic and/or polycyclic compound having at least one double bond.

51. The toner for developing an electrostatically charged image as claimed in claim 50, wherein the acyclic olefin is present and is an alpha-olefin selected from the group consisting of ethylene, propylene and butylene.

52. The toner for developing an electrostatically charged image as claimed in claim 51, wherein the cyclic and/or polycyclic compound having at least one double bond is present and is selected from the group consisting of cyclohexene, norbornene, tetracyclododecene and dicyclopentadiene.

53. A liquid dried system containing 30% by weight to 50% by weight of a dried polymerized system containing 0.5% by weight to 5% by weight of a charge control agent, 1% by weight to 10% by weight of wax, 0.1% by weight to 2% by weight of aerosol silica, 1% by weight to 10% by weight of pigment and 85% by weight to 95% by weight of a binder resin, wherein the binder resin comprises a polyolefin resin having a cyclic structure wherein the polyolefin resin having a cyclic structure comprises a resin or a resin fraction with a number average molecular weight (Mn), as measured by GPC, of less than 7,500;

and 50% by weight to 70% by weight of a carrier liquid.

54. A liquid toner containing 30% by weight to 50% by weight of a mixture containing 0.5% by weight to 1.5% by weight of carbon black, 0.5% by weight to 1.5% by weight of a charge control agent and 85% by weight to 95% by weight of a binder resin, wherein the binder resin comprises a polyolefin resin having a cyclic structure wherein the polyolefin resin having a cyclic structure comprises a resin or a resin fraction with a number average molecular weight (M_n), as measured by GPC, of less than 7,500; and 50% by weight to 70% by weight of a carrier liquid.
55. The liquid toner as claimed in claim 35, wherein said second resin or said second resin fraction is present in amount from 7% to less than 50% by weight.
56. The system as claimed in claim 53, wherein said polyolefin resin further comprises a second resin or a second resin fraction with a number average molecular weight (M_n) of 7,500 or more.
57. The liquid toner as claimed in claim 54, wherein said polyolefin resin further comprises a second resin or a second resin fraction with a number average molecular weight (M_n) of 7,500 or more. --

REMARKS

The applicants respectfully request reconsideration in view of the amendment and the following remarks. Support for the amendment to page 5 of the specification can be found in the original claims 13 and 14. Support for newly added claims 35-57 can be found in claims 16-34. Additionally, support for claims 49, 53 and 54 can be found in the examples, in particular examples 20, 24 and 27 which only require the use of a resin or resin fraction with a M_n of less than 7,500, and a glass transition temperature T_g of lower than 70°C. It is intended that the second resin not be required in claims 49, 53 and 54.